THE STATE of ALASKA
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF ENVIRONMENTAL HEALTH
Drinking Water Program

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File Numbers: 820.07.001
820.45.001

June 10, 2020

Ms. Elsie Vent
City of Huslia
P.O. BOX 10
Huslia, AK 99746

Re: Huslia-Erosion Mitigation Distribution System Modifications (AN 19-JF7)
Drinking Water – Separation Distance Waiver and Conditional Construction Approvals
PWSID: 300191; Class: Community; Source: Groundwater

Dear Ms. Vent:

The Department received a submittal from your Engineer, David Diller, P.E., with CRW Engineering, requesting construction approval for modifications to the distribution system serving Huslia's public water system (PWS). The submittal also included a request for a separation distance waiver. The requests have been reviewed in accordance with the State of Alaska Drinking Water regulations, 18 AAC 80, and **conditional approval to construct and the separation distance waiver are granted**. Enclosed is a Construction and Operation Certificate with the Approval to Construct section signed. The construction approval expires June 10, 2022. This approval is subject to the following condition:

1. After the by-pass tie-in assemblies are pre-disinfected and installed on the existing distribution loop, and the isolated distribution system segment is re-pressurized, at least two water samples (taken 16 hours apart) shall be collected from the closest downstream sample tap(s) or flush hydrant(s) as appropriate to confirm that no bacterial contamination has occurred in the distribution loop.
2. If installation of the by-pass lines requires that the entire distribution system be depressurized so the residual pressure drops below 20 psi, then the PWS must be placed in a precautionary Boil Water Notice (BWN) prior to cutting into the mains. The BWN will be lifted once clean bacteriological sample results are obtained after work is completed. Samples must be taken from at least from two locations: immediately downstream from the work area, and at the return of the distribution system. Two samples (taken 16 hours apart) must be collected from each location. Please contact DEC office to obtain BWN template.

APPROVED PROJECT DESCRIPTION

The approved project consists of installing two by-pass/jumper water mains to isolate two sections of the Huslia distribution loop in danger of damage due to severe erosion on the north bank of the Koyukuk River. A total of approximately 328 feet of direct-bury water main will be installed in two locations. One by-pass/jumper water main will be constructed near the Tribal Council Building, between

water main project station (Sta.) 10+00 and Sta. 12+03 (203 linear feet). The second by-pass main segment will be constructed near Lot 2, Block 8, between Sta. 30+00 and Sta. 31+25 (125 linear feet). The water mains will be constructed of 12x 6-inch arctic pipe with 6-inch diameter HDPE core pipe covered in 3 inches of insulation inside a 12-inch diameter outer pipe jacket (corrugated aluminum pipe).

The new water mains will connect to the existing distribution water main using four fabricated tie-in assemblies made of HDPE pipe and Victaulic HDPE couplings (Style 905). The assemblies, in a tee configuration at three locations and a wye at the other, will have polyethylene ball valves (total of 8 Andronaco Polyvalves) to allow isolation of the bypass mains. On both ends of the by-pass water mains, Romac 306-H service saddles (304-stainless steel) will be installed to facilitate pressure testing, flushing, and sampling the new water mains.

After the new water mains are installed, pressure tested, flushed, disinfected, and verified free of bacterial contamination they will be isolated from the distribution (valved off) and drained. Although the new water mains will remain in that state until they are needed, the project is expected to obtain DEC interim approval to operate once construction is completed. This will allow the by-pass/jumper water mains to be activated as soon as damage to the existing water main loop sections is imminent due to the bank erosion.

No changes to the distribution system flow and pressure capacity are expected by activating the by-pass/jumper water mains; however, distribution system demand is expected to decrease by 6,000 gpd because the distribution loop will be 1,900 feet shorter resulting in 23 houses losing water service. These homes will be provided temporary water holding tanks until they can be moved. These storage tanks are not part of this approval.

SEPARATION DISTANCE WAIVER

A waiver of the separation distance requirements of 18 AAC 80.020(f)(3) between the new water mains and existing sewer mains was requested for the following two locations where the water and sewer mains will cross:

- Sta. 10+15
- Sta. 31+01

The separation distance waiver is approved based on the following information provided in the waiver request:

1. At the crossings the water main will be separated from the sewer main by at least 18 vertical inches.
2. The water main will be placed above the sewer main unless depth of cover is an issue.
3. If the water main is placed below the sewer main, Type 4 or Type 5 bedding condition (per AWWA Standard C600) will be used to protect the integrity of the sewer line.
4. A 20-foot water main pipe will be centered on the crossing to maximize joint spacing between the water main and sewer main.
5. The water main will be hydrostatically pressure tested to at least 110 psi for 1 hour (after a 4-hour expansion phase of at least 120 psi); passing criteria will be less than 5% pressure loss during the test period.
6. Water main joints will be visually inspected to ensure they meet quality criteria in the project specifications.

7. HDPE pipe joint fusion will be performed by a factory-trained and certified person using manufacturer approved equipment and procedures and following ASTM Standard D2657.
8. Water main pressure testing and pipe fusion inspections will be documented during construction.
9. Per the engineer's assessment (record drawings could not be found), the existing gravity sewer mains are of arctic pipe construction with plastic core pipe (PVC or HDPE) with push on joints and an outer pipe jacket (corrugated metal pipe or HDPE).

Please note, this waiver is limited to this project and its current site conditions. Site conditions and related contamination risks may change with time thus voiding this waiver. Approval of this waiver does not obligate the Department to approve future waiver requests proposing the same design.

REQUIREMENTS FOR OBTAINING OPERATIONAL APPROVAL

An operational approval is required prior to using the new water mains to serve water to the public. We understand interim approval to operate will be requested immediately upon completion of construction even though the mains may not be used then. To obtain final approval to operate, the information listed below must be submitted:

1. Letter requesting operational approval
2. Documentation showing the construction approval conditions have been met
3. Documentation, reviewed and certified by the engineer of record, verifying waiver conditions were met in the waiver areas including water main pressure testing and pipe fusion inspection results
4. Documentation the new water mains and tie-in assemblies were properly disinfected and flushed per AWWA Standard C651
5. Locations and results of total coliform tests, sampled per AWWA Standard C651, showing the absence of bacterial contamination after completion of disinfection and flushing
6. Verification the make and model of HDPE pipe selected is NSF/ANSI Standard 61 certified
7. Set of hardcopy as-built or record drawings on paper no larger than 11" x 17" (an additional electronic copy is appreciated but not required) confirming the project, as constructed, meets the requirements of 18 AAC 80 and provides public health protection and:
    - Each page is labeled as-built or record drawing and is sealed, signed, and dated by the registered engineer in responsible charge
    - All construction changes are clearly shown
    - Details are included for water and sewer main crossings such as vertical separation distance and sewer main construction details (e.g. diameter, materials, etc.) that can be field verified.

You may request interim approval to operate by addressing items 1 through 6 above. Interim approvals are typically valid for 90 days. If more than 90 days is needed to complete the final approval to operate request, please indicate the time needed when requesting the interim approval or request an extension before the interim approval expires.

DISCLAIMERS AND ADMINISTRATIVE APPEALS PROCESS

Approval of submitted plans is not approval of omissions or oversights by this office or noncompliance with any applicable regulation. The Department's construction approval does not guarantee correctness

of functional design or waive the owner's responsibility for continued compliance with state regulations. Deviations from approved plans which affect capacity, flow, pressure, operation, compliance, or materials of major system components (particularly any components which do not meet NSF/ANSI Standard 61) must be approved by DEC prior to their construction or implementation.

This approval does not relieve you from compliance with any other state, federal, or local authorizations which are required for your project. You are advised to obtain all other necessary authorizations before proceeding with your project.

This construction approval is valid for two years from the date of this letter. If during the two-year period the site conditions, plans, and design specifications do not change, the applicant may request an extension prior to expiration of this approval and after payment of the fee required by 18 AAC 80.1910(a)(12). Otherwise, the approval will be void and the plans and information required under 18 AAC 80.200(b) must be resubmitted for Department review and approval.

The applicant, owner or operator, or other person adversely affected by this decision may request an informal review of this decision in accordance with 18 AAC 15.185, or may request an adjudicatory hearing in accordance with 18 AAC 15.195-15.340. Requests may be sent by mail, email, or facsimile. Informal review requests must be received by the Division Director within 20 days of this decision. Adjudicatory hearing requests must be received by the Commissioner within 30 days of this decision or the decision of the informal review issued by the Division Director; otherwise, the right to appeal is waived. For more information, visit **https://dec.alaska.gov/commish/review-guidance**.

If you have any questions or concerns, feel free to call me at 907-451-5193, or email me at **johnny.mendez@alaska.gov**.

Sincerely,

Johnny Mendez, P.E.
Engineer II

Enclosure: Construction and Operation Certificate

cc: David Dillard, P.E., CRW Engineering
Greg Martin, ANTHC
Teslyn Visscher, EPS, DW Program
Tonya Bear, P.E., DEC WW Program

State of Alaska Department of Environmental Conservation
Drinking Water Program

PUBLIC WATER SYSTEM CONSTRUCTION AND OPERATION CERTIFICATE

Water System Name: Huslia PWS **PWSID:** 300191

Location: Huslia, AK **Classification:** Community

☐ **System-Wide Approval** ☒ **Modification Approval**

Project Description: Erosion Mitigation Distribution System Modifications (AN 19-JF7)-Bypass/Jumper water mains

A. APPROVAL TO CONSTRUCT

Plans in accordance with 18 AAC 80.205 submitted by, **XXXXX,** have been received and are

☐ **approved as submitted** ☒ **conditionally approved,** see attached letter dated: **6/10/2020**

Reviewer Name	Reviewer Signature	Approval Date	Expiration Date
Johnny Mendez, P.E. Engineer II		6/10/2020	6/10/2022

If applicant fails to complete the project by the expiration date, this approval is void and plans must be resubmitted for Department review and approval as per 18 AAC 80.215(b).

Approved Change Order

Change contract order number or description: _____

Reviewer Name	Reviewer Signature	Approval Date

B. APPROVAL TO OPERATE

This section must be completed and signed by the Department before any water is made available for public use.

Interim Approval to Operate

The project listed above is hereby granted ***INTERIM APPROVAL TO OPERATE***. It is illegal to operate a public water system beyond the expiration date without final approval to operate from the Department.

Description	Reviewer Name	Reviewer Signature	Approval Date	Expiration Date

Final Approval to Operate

The project listed above is hereby granted ***FINAL APPROVAL TO OPERATE.*** Record drawings and other documents submitted to the Department, or an inspection by the Department, has confirmed that the public water system was constructed in substantial conformance to 18 AAC 80.

Reviewer Name	Reviewer Signature	Approval Date